APEX AWARD 2004
DETAILED DOCUMENT
PRESENTED BY NEVADA POWER and SIERRA PACIFIC POWER
LAS VEGAS/RENO, NV

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I. PROJECT TITLE:

NOVEL COLLABORATION SOLVES COMMUNICATION CRISIS IN THE STATE.

Nevada Power and Sierra Pacific Power share technologies, technicians, and even buildings to ensure public safety agencies communicate and interoperate. The power companies have, through a public/private partnership with Nevada Department of Transportation (NDOT), created a shared statewide radio system referred to as the Nevada Shared Radio System (NSRS).

II. COMPANY BACKGROUND: A Tale of Two Utilities

Established nearly a century ago in 1906, Nevada Power serves one of the fastest-growing regions in the United States. Headquartered in Las Vegas, the utility's service area is approximately 4,500 square miles, with 1,737 employees working together to provide power and continuity of service to more than 700,000 customers.

Counterpart and sister company Sierra Pacific, is situated in Reno and acts as the electric utility for most of northern Nevada and the Lake Tahoe region of California. Sierra Pacific also provides natural gas to nearly 130,000 customers in the Reno and Sparks metropolitan area. Sierra Pacific's electric service territory covers 50,000 square miles in western, central and northeastern Nevada
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plus an additional section of northeastern California. More than 1300 employees serve 334,000 electric customers.

The two companies are subsidiaries of Sierra Pacific Resources, and together these two experienced utility companies provide power, resources and extensive support to the much of the population in this thriving Western state.

III. RADIO SYSTEM BACKGROUND

A) Nevada Power operates an extensive 18-site, 800 MHz trunked radio system. Its coverage footprint supports company operations throughout southern Nevada and extends along the Arizona/Utah border. The system was designed and installed in the early 1990s by Ericsson (now M/A-Com) and is based on Enhanced Digital Access Communication System (EDACS) multi-site technology.

The 18-site radio system, called the Nevada Shared Radio System (NSRS) is a subsystem of the Nevada Department of Transportation's wide-area EDACS Radio Network. Members of the network include the Transportation Department, Nevada Power, Washoe County, Sierra Pacific, the University of Nevada-Las Vegas and the state parks service.

Nevada Power houses all the Southern Nevada backbone equipment. This includes the Integrated Multisite Controller (IMC) radio Switch, which supports these public safety and public service agencies, as well as other users in Clark

County. The utility operates and maintains approximately 1,300 mobile and portable radios.

B) Sierra Pacific is also a member of the Nevada Shared Radio System with Nevada Power and the Nevada Department of Transportation. The utility owns, operates and maintains 13 EDACS sites in northern Nevada out of more than 70 sites total in the entire system.

Sierra Pacific provides housing and maintenance for the primary EDACS backbone equipment and operates and maintains about 500 mobile and portable radios. Sierra Pacific also supports an 800 MHz radio service for Tuscarora, a 50 percent Sierra Pacific Resources-owned company.

Due to the backbone equipment operation and maintenance responsibilities that Sierra Pacific provides, it is the focal point for coordination of systemwide operations from a number of key state agencies, including the Nevada Highway Patrol, Washoe County, the Reno and Sparks Police Department, the Reno and Sparks Fire Department and the Department of Forestry in Northern Nevada.

IV. PROJECT SITUATION: A Communications Crisis Arises

In the fourth quarter of 2003, the Nevada Highway Patrol was forced to abandon their radio communications system when it was discovered that the agency did not have federal licenses for the system's 140 frequencies. Unbeknownst to the

Highway Patrol, they had been using their $14 million communications system for several years without receiving approval from the Federal Communications Commission (FCC), which regulates radio frequencies. An internal audit uncovered the mistake late in the year.

As a result, the Highway Patrol was facing the alarming prospect of shutting down statewide communications, eliminating interoperability and potentially compromising safety. Or, they could pay significant fines of up to $10,000 a day for each radio frequency – an unacceptable and cost-prohibitive solution.

As a solution to this situation, the Nevada State legislature asked the Nevada Department of Transportation to use the Nevada Shared Radio System and allow the Nevada Highway Patrol to use the existing infrastructure to meet Nevada Highway Patrol radio communication needs.

V. PROJECT SOLUTION: Proactive Partnership and Collaboration

Inspired by the call of the Nevada State Legislature and the chance to help public safety officers and communities across the state, both Nevada Power and Sierra Pacific Power began working diligently with NDOT and various public safety agencies to expand the statewide infrastructure in order to accommodate the Highway Patrol. Consistently throughout 2004, Nevada Power and Sierra Pacific helped design, engineer and transition the

Highway Patrol from the unacceptable 150 MHz system to the shared, systemwide 800 MHz trunked radio system.

In addition to engineering and design resources and infrastructure assistance, both utility companies provided critical technical support that was paramount in establishing and keeping the Highway Patrol's new radio system operational.

After months of diligent work, stops and starts, and testing, the radio system appeared to be working without a hitch by November 2004. The entire radio system was re-engineered and re-inspected where needed, especially the many mountaintop radio antennas which were checked for loose wiring.

"Everything seems to be working very well," said Captain Chris Perry, who coordinated the conversion for the Highway Patrol. He added that his troopers had given positive feedback on its performance.

Months later, the system continues to work well, bridging communications across agencies and jurisdictions and bringing interoperability to the state's emergency responders. Both Nevada Power and Sierra Pacific continue to provide daily technical support, operational support and engineering resources to ensure that communications are reliable and uninterruptible.

VI. PROJECT EXAMPLES: Service and Support, Beyond the Call of Duty

Both power companies' commitment to assisting public safety agencies across the state extends far beyond system installation and maintenance. For example, during the New Year's weekend, a rogue microwave dish knocked down the Las Vegas Highway Patrol's main antenna. Using a Metropolitan Police helicopter, Nevada Power flew to the radio site and gave the Highway Patrol the company's own antenna to use for critical communications during this extremely busy holiday which brings visitors from around the world to Las Vegas. Nevada Power has insisted the Highway Patrol keep the antenna up and running into the New Year until they can fix and re-install their own.

Nevada Power has looked for other opportunities to share resources and assist public safety practitioners. Recently, the utility company met with the Las Vegas Metropolitan Police Department to discuss physical facilities. This resulted in an agreement to share building space, which will significantly lower lease costs for both entities.

Sierra Pacific frequently provides technical support to maintain and upgrade Nevada Department of Transportation (NDOT) sites as well as their own. During a winter storm the first week of January 2005, Sierra Pacific provided "snow cat" transportation and technicians to restore service at a critical NDOT site which had suffered a failed generator. The site is significant because it serves public safety users throughout the populous Carson City area.

As further proof of their commitment, Nevada Power and Sierra Pacific Power are providing communication connectivity and sharing building space with other agencies statewide. These include the Las Vegas Fire Department's SmartNet system, Clark County and Washoe County Sheriff's Department. This will enable emergency services to share infrastructure -- reducing costs, improving response and producing greater interoperability.

VII. PROJECT RESULT: A Better State of Interoperability

By the end of 2004, Nevada Power's and Sierra Pacific's efforts to transition the Highway Patrol to the 800 MHz NSRS system were a success. The Utility's efforts were able to save the State of Nevada substantial monies that would have otherwise been spent on a new radio system. As importantly, they increased interoperability for public safety agencies, making sure that every responder – law enforcement, fire, EMS, state parks, transportation -- had access to the critical communications lifeline they depend on for day-to-day operations or emergencies.

Nevada Power and Sierra Pacific continue to be at the forefront in solving the challenges of interoperability by bridging the gap between local, county and state agencies. They bring technology, technicians, resources and expertise to connect networks, troubleshoot challenges, develop new radio sites (such as the one at Angel's Peak) and unify critical communications across the state. This

advocacy and collaboration is truly a hallmark of these two community-focused power companies.